

The Outcomes of Liver Abscess, in A Tertiary Care Unit

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ABSTRACT

Objective: To study aims at the early clinical presentation, diagnosis, management and to establish guidelines in view of conservative or either intervention.

Study Design: Longitudinal study

Place and Duration of Study: This study was conducted at the Surgical Department of Allama Iqbal Memorial Teaching Hospital Sialkot from Jan 2017 to Jan 2020.

Materials and Methods: A total of 200 patients visited the OPD; only 40 were willing to be hospitalized from Jan 2017 to Jan 2020. Patients more than 20 years. Suspicion of liver abscess on the basis of clinical and diagnostic confirmation.

Results: A total of 40 cases were studied, with the mean age of 44years; all patients male and female studied for their presentations (pain, fever, vomiting, chills, jaundice, diarrhea, tenderness, enlarged liver, management conservatively or surgically, The collected data was analyzed through SPSS 20.

Conclusion: Males affected more than female, ultrasound is the best imaging technique and aspiration found to be best in interventional technique.

Key Words: Enlarged liver, conservative, aspiration, pig tail, mortality.

Citation of article: Hussain S, Cheema J, Zulfiqar F. The Outcomes of Liver Abscess, in A Tertiary Care Unit. Med Forum 2020;31(5):62-65.

INTRODUCTION

Liver abscess had a long history since 3000 B.C¹, for which patients present with upper abdominal pain which is more marked in right hypochondrium. If these patients are not managed earlier they will have higher morbidity and mortality². The most of the abscesses were amoebic than pyogenic.³

The pyogenic variety is more marked in the western countries as compared to developing countries⁴, which are failed to be documented due to lack of insufficient resources.

The main reasons of pyogenic abscess are ascending biliary infection through portal venous system and septicemia as result of infections caused by E.Coli, klebsiella, streptococcal followed by staph and proteus⁵. The investigations which are carried out are ultrasonography, by aspirating reddish brown paste like material.

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Received: February, 2020

Accepted: March, 2020

Printed: May, 2020

The diagnosis of amoebic liver abscess is made by the clinical picture, examination findings, ultrasound findings and management plans⁶.

There were enough literature present internationally to talk about the involvement of the lobes right, left or both, liver enlargement, raised LFTs, type of liver abscess amoebic pyogenic, single or multiple and different management plans. Globally, which reveals that smaller abscesses may be treated conservatively while larger needs some modalities ranging from aspirations to pig tail catheter insertion but there is no definite consensus for the management of the symptomatic liver abscess but there was a very scarce literature available to be studied in order to bridge a existing gaps and comparing our data with established data in order to predict about the clinical picture, examination findings and diagnostic tools which are available and different treatment modalities in order to decrease morbidity and mortality of the patients. The idea of the minimal invasive procedures are still of the significant importance in the treatment modalities of liver abscess⁷, in combination with modern antibiotics. Best treatment option is the percutaneous techniques⁸.

Keeping all above mentioned facts in mind a study was carried out in 40 patients in our local context of a tertiary care unit draining more than four million populations.

The present study is to finding out some link between the clinical presentations, examination findings and treatment modalities and comparing their efficacy with already researched before.

MATERIALS AND METHODS

A total of 200 patients visited the OPD; only 40 were willing to be hospitalized from Jan 2017 to Jan 2020.

Inclusion criteria: Patients more than 20 years
Suspicion of liver abscess on the basis of clinical and diagnostic confirmation.

Exclusion criteria: Age less than 20 years and cases associated with malignancy, immune compromised, and ascetic with other effusions.

A thorough hospital based longitudinal study age,gender,pain,fever,chills,vomiting,jaundice,diarrhea, enlarged liver, tenderness, raised liver function tests, lobes involved, single or multiple, amoebic/pyogenic, conservative or intervention like aspiration, pigtail, both or any surgical intervention, morbidity /mortality.

RESULTS

The liver abscess was more common in male 30 (75%) female 10 (25%), pain was marked in 32 patients(80%),fever in 27 patients(67.5%) chills in 30 (75%) vomiting 20 patients(50%)jaundice in 20 (50%), complaint of diarrhea in 21 patients (52.5%),enlarged liver in 21 (52.5%) tenderness in 17 patients (42.5%), LFTs raised in 18 patients(45%),involved right, left or both lobes as shown in table 1 which when further analyzed found to be significant (p value 0.01749)

Table No.3: Statistics analysis of lobes in respect to treatment

Lobe involved		Treatment				Total
		Conservative	Aspiration	Pig Tail	Surgery	
Right Lobe	Count	3	9	6	1	19
	% within Lobe_involved	15.8%	47.4%	31.6%	5.3%	100.0%
Left Lobe	Count	11	1	3	0	15
	% within Lobe_involved	73.3%	6.7%	20.0%	0.0%	100.0%
Both	Count	1	2	1	2	6
	% within Lobe_involved	16.7%	33.3%	16.7%	33.3%	100.0%
Total	Count	15	12	10	3	40
	% within Lobe_involved	37.5%	30.0%	25.0%	7.5%	100.0%

Table No.4: statistics analysis

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.110 ^a	6	.003
Likelihood Ratio	19.490	6	.003
Linear-by-Linear Association	.061	1	.804
N of Valid Cases	40		

DISCUSSION

Our study included 40 patients show mean age group of presentation was 44.35 the minimum age was 22 years while maximum age was 65 years, there is a male preponderance in our case with a ratio of 3:1 as

Table No.1: Lobes involvement

Lobe	Single	Multiple	Total
Right	9	10	19(47.5%)
Left	14	1	15(37.5%)
Both	4	2	6(15%)

There was a single abscess in 23 cases (57.5%) while multiple in 17 (42.5%) cases, most of the liver abscess was amoebic 22 (60%) pyogenic in 18cases (40%). (Table 2)

Table No.2: Types of abscess

Abscess	Amoebic	pyogenic	Total
Single	18	5	23
Multiple	4	13	17
Total	22	18	40

The single and multiple when further analyzed in respect to their type (amoebic)/pyogenic their relation found to be significant (P value 0.0002)

As regard treatment modalities are concerned 15 (37.5%) managed conservatively, aspiration was done in 12(30%) pig tail in 10 cases(25%), surgery in only 3 cases.

The statistical analysis of involvement of lobes in respect to the treatment modalities also found to be significant as shown in table 3 and table 4.

compared to other literature ratio ranging from 10:1 to 11.7:1⁹, in another study carried out by the Kapoor et al it was 5.66:1¹⁰.

Incidence of pain was in 80% of cases which was consistent with the recent study where it was 88 %⁽¹¹⁾, which is quite high as compared to 75% in India ,the incidence of jaundice was also 50% while it was 31.5 % in the study of see to and Rockey¹¹.

Most of the liver abscess was amoebic 60% while it was 67% Rajakn CLstudy¹² while the incidence of amoebic liver abscess was more or less same 61.81% in a study carried

Out by sudhirjayakar¹³ while studies carried out in western countries the incidences of pyogenic abscesses were more than amoebic abscesses carried out by the Kaplan¹⁴. Liver enlargement is not necessarily associated with liver abscess as it was present only in

21 cases (52.5%) which is consistent with the studies carried out in 56 patients studied in San Francisco hospital between 1979 to 1994¹⁵. Similarly LFTs are raised in 18% of the cases (45%) while 22 patients did not have any elevations in the LFTs (55%) which was consistent with the studies carried out in 352 cases in univariate and multivariate analysis¹⁶.

Right lobe involved in 47.5% while left lobe involved in 42.5% while in case of study by Rose it was 55% involving right lobe, 27.7% in left lobe and 16% in both lobes. 23, 25 while in a prospective study in 45 patients 80% right lobe left lobe 18% while 2%¹⁵, similarly liver abscess involved 57.5% as a single while 42.5% as multiple abscesses which was consistent with the study of Mathieu et al and other studies. Our study was also consistent with the studies carried out by Greenstein et al¹⁶.

Most of our patients responded to the conservative treatment with good control of antibiotics 37.5% patient improved after a conservative treatment, which was consistent and coherent with the studies carried out by Akgun et al⁶ where metronidazole were given to single solitary liver abscess while PCD was carried out in 12 cases (30%) which is more successful in terms of recurrence of abscess, relief of symptoms and decrease in the size of cavity and took a short duration as compared to other modalities, Pig tail catheter was used in 10 cases (25%) while surgery was carried out in only three cases where all modalities failed as a last resort. The management of the liver abscess is quite debatable and it varies center to center, lot of comparative studies have been carried out in the past where pig tail was preferred over percutaneous aspirations¹⁷ but in 306 patients success rate and clinical improvement was more in percutaneous aspiration as there is lot of reduction in size of the cavity. While a study on the 45 patients a comparative study of needle and catheterization showed the superiority of catheterization on pig tail, similarly few other studies showed the same results and inconsistent to our studies. Total 45 patients in which 22 patients were aspirated while 23 got pig tail catheterization¹⁸ while in another study in 98 patients 13 were managed conservatively, 79 were managed through PCD while in 6 patients, laparotomy was carried out¹⁹.

Surgical interventions were carried out in just 3 cases which presented with peritonitis. No previous attempt of percutaneous, pig tail catheterization was attempted, a lot of variation also exist in this aspect, where treatment of pyogenic abscess was compared with the percutaneous drainage in a study carried out by Bertel et al¹⁵, another study the 48 patients study with pyogenic liver abscess out of which 35 patients needed surgical intervention with 91.5% improved results with mortality rate of 8.5%²⁰.

Mortality and morbidity rates were also compared, the morbidity was decreased with early diagnosis and the

earliest interventions which were carried out, in our study, mortality rate was quite low as because of early diagnosis and management, the morbidity was found in 11 cases while mortality rate was 3/40 (7.5%). Hospital stay was 13.6+8.1 days and with antibiotic therapy 34.7+40.6 days which was carried out in a 67 patients study with 61 male and 6 female patients²¹.

CONCLUSION

The study revealed most common affected age group was between third and fifth decade. Males are affected more than female, incidence of amoebic liver abscess was more as compared to pyogenic liver abscess, and few responded to medical treatment, majority required aspirations found to be better followed by pig tail catheterization, surgery as interventions in liver abscess management with less morbidity and quite rare mortality.

Author's Contribution:

Concept & Design of Study:	Sajid Hussain
Drafting:	Fatima Zulfiqar
Data Analysis:	Junaid Cheema
Revisiting Critically:	Fatima Zulfiqar
Final Approval of version:	Sajid Hussain

Conflict of Interest: The study has no conflict of interest to declare by any author.

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